

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Amended) A sampling device for detecting an analyte of interest in a difficult-to-access sampling location, comprising:

a chamber having at least one part of a wall of the chamber defined by a semipermeable membrane;

the semipermeable membrane, wherein the semipermeable membrane is permeable to the analyte of interest;

a first channel communicating with the chamber; ~~and~~

a second channel communicating with the first channel through the chamber,

wherein the first channel and the second channel enable a carrier fluid to be transported from the chamber to a sample delivery site; and

a source of pressurized fluid communicating with at least one of the first and second channels for selectively causing a volume of the carrier fluid to remain in the chamber in contact with the semipermeable membrane for a specified equilibration period and thereafter transporting at least a portion of the volume to a sample delivery site.

2. (Original) The sampling device of Claim 1 further comprising a protective layer surrounding the first channel and the second channel.

3. (Original) The sampling device of Claim 1 further comprising a shell surrounding the chamber.

4. (Original) The sampling device of Claim 3, wherein the shell surrounds the first channel and the second channel.

5. (Amended) ~~The A~~ sampling device of ~~Claim 3 or 4, wherein the shell is removable~~
for detecting an analyte of interest in a difficult-to-access sampling location, comprising:

a chamber having at least one part of a wall of the chamber defined by a semipermeable membrane;

the semipermeable membrane, wherein the semipermeable membrane is permeable to the analyte of interest;

a first channel communicating with the chamber; and

a second channel communicating with the first channel through the chamber,

wherein a removable shell surrounds at least one of (i) the chamber or (ii) the first channel and the second channel, and the first channel and the second channel enable a carrier fluid to be transported from the chamber to a sample delivery site.

6. (Original) The sampling device of Claim 3 or 4, further comprising a probe tip for insertion of the sampling device into the sampling location, wherein the probe tip engages the shell and the sampling device is disposed on a surface of the probe tip.

7. (Amended) The sampling device of Claim 1, further comprising a sample collector and a with the source of pressurized fluid connected to the second channel, wherein the pressurized fluid is capable of driving the carrier fluid from the chamber through the first channel to the sample collector.

8. (Amended) The sampling device of Claim 1, further comprising:

an analytical instrument communicating with the chamber through the first channel;

and a with the source of pressurized fluid connected to the second channel, wherein the pressurized fluid is capable of driving the carrier fluid from the chamber through said first channel to the analytical instrument.

9. (Original) The sampling device of Claim 7 or 8, wherein a pump is the source of the pressurized fluid.

10. (Original) The sampling device of Claim 1, wherein the semipermeable membrane is in the shape of a tube and the internal space of the tube comprises the chamber.

11. (Original) The sampling device of Claim 10, wherein the tube comprises a silicone tube.

12. (Original) An array of sampling units, wherein each of the sampling units comprises the sampling device of any one of Claim 1 to 5 positioned at a different sampling location.

13. (Original) The array of sampling units of Claim 12, wherein the different sampling location is at a different horizontal location.

14. (Original) The array of sampling units of Claim 12, wherein the different sampling location is at a different vertical location.

15. (Original) A method of obtaining a sample for detecting an analyte of interest in a difficult-to-access location, comprising the steps of:

- a) positioning the sampling device of Claim 1 in a sampling location;
- b) allowing the analyte of interest to permeate through the semipermeable membrane into the chamber, wherein the chamber contains a carrier fluid; and
- c) transporting the carrier fluid from the chamber through the first channel.

16. (Original) The method of Claim 15, wherein the transporting of the carrier fluid is to a sample collector.

17. (Original) The method of Claim 15, wherein the transporting of the carrier fluid is to an analytical instrument.

18. (Original) The method of Claim 15, wherein transporting the carrier fluid from the chamber through the first channel occurs at periodic intervals.

19. (Amended) A method of installing a sampling system, comprising:

a) directing a sampling probe to a sampling location, wherein the probe comprises ~~the~~ a sampling device ~~of Claim 1~~ enclosed in a shell, said sampling device being for detecting an analyte of interest in a difficult-to-access sampling location and comprising:

a chamber having at least one part of a wall of the chamber defined by a semipermeable membrane;

the semipermeable membrane, wherein the semipermeable membrane is permeable to the analyte of interest;

a first channel communicating with the chamber; and

a second channel communicating with the first channel through the chamber,

wherein the first channel and the second channel enable a carrier fluid to be transported from the chamber to a sample delivery site; and

b) withdrawing the shell.

20. (Original) The method of Claim 19, further comprising filling the spaces previously occupied by the shell.